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ABSTRACT

Locating and selecting an instrument that measures resilience is no simple task. This document provides information about several measures of resilience or hardiness that have been used in recent years. The discussion of each measure includes information about its origins, a description of the measure and its uses, and a discussion of the psychometric properties of the measure. The following are described: (1) Personal Views Survey III (Hardiness Institute, 1985); (2) Cognitive Hardiness Scale (K. Nowack 1989); (3) Psychological Hardiness Scale (S. Younkin and N. Betz, 1996); (4) Resilience Scale (G. Wagnild and H. Young, 1993); (5) Resiliency Scale (C. Jew, K. Green, and J. Kroger, 1999); (6) Personal Resilience Questionnaire and Organizational Resilience Questionnaire (D. Conner, 1993); and (7) Family Hardiness Index (H. McCubbin, A. Thompson, and M. McCubbin, 1996). (Contains 24 references.) (SLD)

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Measuring Resilience

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Measuring Resilience

The literature is replete with research and comment on the topic of resilience. Although only a few references can be found prior to the mid 1980s, the volume of studies has grown tremendously just in the last few years. A search of the *Psycinfo* database since 1996 using resilience, resiliency, and hardiness (a term often considered synonymous) reveals well over 600 citations. That number, representing 3 ½ years of citations, is as many as were found for the previous 12 years combined (1984 to 1995), and before 1984, only 68 citations were found. Delving into the literature is complicated by the fact that the construct of resilience can be considered applicable at the individual, group, or organizational level. Furthermore, resilience is a topic that is relevant to a number of fields of study including education, business, mental health, medicine, and social welfare, to name just a few. And given today's concerns, the study of resilience will remain prominent in the literature as it relates to a number of risk groups.

Locating and selecting an instrument that measures resilience is no simple task. With the burgeoning literature on resilience, there comes a succession of instruments intended to measure the construct of resilience or resiliency or the related construct of hardiness. Anyone attempting to locate such an instrument, however, must search a large body of literature to identify one suited to a particular purpose or population and learn enough about the adequacy of the instrument to make an informed judgment.

The intent of this manuscript is to provide information on several measures of resilience,

resiliency, and hardiness that have been developed and used in recent years. Discussion will include information on the origins, descriptions and uses, and the psychometric properties of each measure.

Personal Views Survey III

Origins. This instrument is the most current version of a hardiness measure whose origins date back 20 years. Kobasa (1979a, 1979b) hypothesized the following:

> Highly stressed persons who stay healthy possess to a greater extent than highly stressed persons who get sick: (a) the belief that they can control or influence the events of their experience, (b) an ability to feel deeply involved in or committed to the activities of their lives, and (c) the anticipation of change as an exciting challenge to further development. (Kobasa, 1979a, p. 415)

The three components of commitment, control, and challenge comprise hardiness, a "personal stance that facilitates coping effectively with stressful circumstances" (Maddi, 1997). The earliest form of the original instrument contained 19 different scales (Funk, 1992) and was "a composite questionnaire, made up of all or parts of five standardized instruments" as follows:

> The *Control* dimension was measured through scales from four different instruments: the Internal vs. External Locus of Control scale (Rotter et al., 1962), the powerlessness vs. personal control and nihilism vs. meaningfulness scales of the Alienation test (Maddi et al., Note 2), the achievement and dominance scales of the Personality Research Form (Jackson, 1974), and the leadership orientation scale of the California Life Goals Evaluation Schedules (Hahn, 1966). The *Commitment* dimension was measured by the Alienation test's scales on alienation from vs. commitment to work, social institutions, interpersonal relationships, family, and self, and the role consistency scale, adapted from the Gergen and Morse (1967) Self-Consistency test to measure compatibility among the subject's self-reported five most important life roles. Measurement of the orientation to Challenge required the administration of several tests: the preference for interesting experiences and the security orientation scales of the Hahn instrument, the vegetativeness vs. vigorousness and adventurousness vs. responsibility scales of the Alienation test, and the need for cognitive structure and need for endurance scales of the Personality Research Form. (Kobasa, 1979a, pp. 416-417)

Funk, in his 1992 review of hardiness, outlined changes that occurred to the original instrument, resulting in the retention of only 5 scales on "an inventory of 71 items [that] became the most widely used measure of hardiness – the Unabridged Hardiness Scale (UHS)" (p. 336). Funk also described the two short forms that followed the original measure – "the 20-item Abridged Hardiness Scale (AHS) and the 36-item Revised Hardiness Scale (RHS)" (p. 336), both of which appeared in 1982. Like the original, both yielded an overall measure of Hardiness. In addition, the revised scale yielded measures for Commitment, Control, and Challenge.

From these beginnings, newer instruments have evolved. These include "the 50-item Personal Views Survey (PVS; Hardiness Institute, 1985) and the 45-item Dispositional Resilience Scale (DRS; Bartone, Ursano, Wright, & Ingraham, 1989)" (Funk, 1992, p. 336). A later version, the Personal Views Survey II (PVS-II), was composed of 45 items (Maddi, 1997).

Description. The most recent iteration of these instruments is the Personal Views Survey III. According to Khoshaba (personal communication, 1999), "the PVS-II and PVS-III are essentially the same instruments, only the PVS-III has only the 30 best items on it." Like most of its earlier predecessors, the PVS-III measures commitment, control, and challenge. The PVS-III can be administered independently, but it is also contained in a 106-item HardiSurvey (Khoshaba, personal communication, 1999) which "measures not only Hardy Attitudes, but other resistance resources of Work Support, Family Support, and Hardy Coping, along with the vulnerability factors of Stress, Strain, and Regressive Coping" (Maddi, personal communication, 1999). The respondent is required to read each statement on the questionnaire and respond on a scale from 0 (complete disagreement) to 4 (complete agreement). The inventory yields scores for Commitment, Control, and Challenge as well as a Total score (Maddi, 1997).

Uses. Although the original instrument was developed to study the hardiness of middle- and upper-level managers (Kobasa, 1979a, 1979b; Kobasa, Maddi, & Courington, 1981; Kobasa, Maddi, & Kahn, 1982), the various revisions have been used with a number of different populations. For example, the Dispositional Resilience Scale, a modification of Kosaba's (1979) scale, was used with survivor assistance officers (Bartone, et al., 1989), as well as with university students (Gibson & Cook, 1997). The Revised Hardiness Scale (Kobasa & Maddi, 1982; cited in Bohle, 1997, and Brookings & Bolton, 1977) was administered to college undergraduates in a study by Brookings and Bolton (1997) and to nurses in the Bohle (1997) study. Maddi pointed out that "the PVS-II is designed for adults of any age, whether they be healthy, psychiatric patients, or medical patients, but this test has also been used to good effect with adolescents. Indeed, both adult and adolescent norms are available" (Maddi, 1997). Maddi (1997) noted further that "the PVS-II has applications in the workplace, schools, hospitals, medical practices, mental health practices, military contexts, sports contexts, and forensic evaluations" (p. 301).

Psychometric Properties. Reliability and validity evidence have been reported as part of various studies using various versions of the instrument. Brookings and Bolton (1997) reported coefficient alphas for the Revised Hardiness Scale (RHS) as evidence of internal consistency reliability. They ranged from a low of .49 for the 8-item Challenge scale to a high of .72 for the 16-item Control scale. Overall, the 36-item instrument yielded a coefficient of .71. Several researchers have also found modest correlations with other instruments. For example, the RHS correlated -.274 and -.182 with two administrations of Center for Epidemiological Studies Depression Scale. On two administrations of the 20-item short form of the hardiness scale, McNeil, Kozma, Stones, and Hannah (1986) found alpha coefficients of .64 and .67 as evidence

of internal consistency. They found an association with happiness as evidenced by correlations of -.35 and -.23 with two administrations of the Memorial University of Newfoundland Scale of Happiness (Kozma & Stones, 1980, cited in McNeil et al., 1986). They also found an association with low anxiety, as evidenced by correlations of .30 and .32 with two administrations of the State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1970, cited in McNeil et al., 1986). Maddi and Khoshaba (1994) found alpha coefficients of .75, .84, .71, and .88 on the Commitment, Control, Challenge, and Total scores for the 50-item Personal Views Inventory. They also found a correlation of -.46 with the Hopkins Symptom Checklist, "a measure of negative affectivity" (p. 268), and correlations with absolute values mostly in the .40 and .50 range with scales of the MMPI. The strongest correlations were a -.539 with the Dependency scale and a .540 with the Ego Strength scale. According to Maddi (1997),

> A number of studies have shown the PVS-II to have adequate internal consistency (.70 to .75 for commitment, .61 to .84 for control, .60 to .71 for challenge, and .80 to .88 for total hardiness) and stability (.68 for commitment, .73 for control, .71 for challenge, and .77 for total hardiness). Factor analyses have confirmed the existence of the three components of hardiness (Bartone, Ursano, Wright, & Ingraham, 1989; Maddi, 1987), and the predicted positive intercorrelation of all components has been demonstrated not only on adults but also adolescents from high school to college age. (pp. 297-298)

Cognitive Hardiness Scale

Origins. According to Nowack (1989), this scale "assesses the possession of specific attitudes and beliefs based upon [Kobasa's] concept of personality hardiness. . . . [and] recent criticisms of the original hardiness scale by Kobasa . . . have also been considered in the development of the present scale" (p. 150). Nowack's scale purports to measure "(1) involvement – commitment, as opposed to alienation, to one's work, family, self, hobbies; (2) challenge – attitudes around viewing life changes as challenges as opposed to threats; and (3)

control – beliefs that one has a sense of control over significant outcomes in life" (p. 150).

Description. The Cognitive Hardiness Scale consists of 30 items, each rated by respondents on a 1 to 5 scale (strongly agree to strongly disagree). Only the total score was included in analyses reporting on the development of the instrument and the relationship between scores on this instrument and scores of measures of coping and health status.

Uses. The Nowack (1989) study included 262 professional employees attending management workshops. Younkin and Betz (1996) administered the instrument to 295 university students in an introductory psychology class as part of their later study on the development of another hardiness measure. Row (1997), studying the relationships among several variables (hardiness, stress, temperament, coping, and burnout), used the Cognitive Hardiness Scale with 448 health care professionals.

Psychometric Properties. Nowack (1989) obtained an internal consistency reliability coefficient of .83 for his instrument. He also found that the Cognitive Hardiness Scale correlated .33 with a Health Habits Scale, -.46 with a stress measure based on the Kanner et al (1981; cited in Nowack, 1989) Hassles Scale, -.36 with a measure of psychological distress adapted from the Hopkins Symptom Checklist (Derogatis et al., 1974; cited in Nowack, 1989),, and -.36 with a physical illness measure adapted from Greenberg (1981; cited in Nowack, 1989). It also correlated moderately (-.44, .42, .40, and .32) with four subscales of the Coping Style Scale developed by the author. Rowe (1997) used three subscale results (commitment, control, and challenge) as well as a total score for the Cognitive Hardiness Scale and found correlations of -.45, -.41, -.41, and -.50 respectively with the total scale of the Maslach Burnout Inventory.

Psychological Hardiness Scale

Origins. Younkin and Betz (1996) identified several measurement problems in the Kosaba instruments. These included (a) lack of stability of the measures, (b) use of three traits already proposed as important in stress resistance to measure a hardiness (a construct that was supposed to reflect a unidimensional trait), (c) differential relationship of the three Kosaba dimensions to criterion variables, and (d) the use of predominantly negative indicators among the measures of commitment, control, and challenge. According to Younkin and Betz, "the concept of hardiness has logical merit and face validity" (p. 163) despite the measurement problems. As a result, they proposed the use of a unidimensional instrument designed to measure hardiness (or resilience) directly rather than indirectly.

Description. The Psychological Hardiness Scale consists of 40 items to which respondents answer on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly Agree). The scale contains both positively and negatively worded items.

Uses. In the study that described the development of the instrument, it was given to 295 university students enrolled in an introductory psychology course.

Psychometric Properties. The authors reported an internal consistency reliability measure of .92. Concurrent validity of the measure was assessed through its correlation (.75) with the Cognitive Hardiness Scale (Nowack, 1990, 1991; cited in Younkin & Betz, 1996). Evidence of construct validity was provided through correlations with the Rosenberg Self Esteem Inventory (Rosenberg, 1965; cited in Younkin & Betz, 1996), the Beck Depression Inventory (Beck, 1967; cited in Younkin & Betz, 1996), and the Autonomy Scale (Beck, Epstein, & Harrison, 1983; cited in Younkin & Betz, 1996). The analyses yielded correlations of .56, -.59, and .43 respectively.

Criterion-related validity evidence reported by the authors included correlations with the Brief Symptom Inventory (Derogatis & Spencer, 1982; cited in Younkin & Betz, 1996) and the Life Stress Survey, a measure that included items taken from the Life Experiences Survey (Sarasan, Johnson, & Siegel, 1978; cited in Younkin & Betz, 1996). These correlations were found to be -.64 and -.32 respectively.

Resilience Scale

Origins. Wagnild and Young (1993) drew from the literature on resilience to arrive at five components (equanimity, perseverence, self-reliance, meaningfulness, and existential aloneness) as the basis for developing their instrument. Interview statements reflecting each of these components were selected and used to form items. The items representing the five components are identified by the authors as belonging to one of two factors (I. Personal Competence and II. Acceptance of Self and Life) based on results of a factor analysis.

Description. The 25-item scale calls for respondents to rate items on a 7-point continuum from disagree to agree. Although items are identified with factors, only the total score is used in results reported by Wagnild and Young (1993).

Uses. Several studies mentioned by the authors included adults aged 53-95, caregivers of spouses with Alzheimer's disease, graduated students, first-time mothers returning to work, and residents of public housing. Aroian and her colleagues (1997) developed a Russian language version for use with a population of Russian immigrants.

Psychometric Properties. Wagnild and Young (1993) reported internal consistency reliabilities for the instrument ranging from .76 to .91 from several of their prior studies. Test-retest reliabilities ranged from .67 to .84. Correlations with other instruments included measures

of morale (.54, .43, and .28), life satisfaction (.59 and .30), health (.50, .40, and .26), perceived stress (-.67 and -.32), symptoms of stress (-.24), depression (-.36), and self-esteem (.57).

Resiliency Scale

Origins. Jew, Green, and Kroger (1999) described their Resiliency Scale as "based on a cognitive appraisal theory of resiliency first posed by Mrazek and Mrazek (1987). Their theory posits responses to stress to be influenced by appraisal of the situation and by a person's capacity to process an experience, attach meaning to it, and to incorporate the experience into his/her belief system" (pp. 5-6). According to Jew et al., Mrazek and Mrazek identified 12 skills and abilities used by resilient people to cope with stress. They include (1) rapid responsivity to danger, (2) precocious maturity, (3) dissassociation of affect, (4) information seeking, (5) formation and utilization of relationships for survival, (6) positive projective anticipation, (7) decisive risk-taking, (8) the conviction of being loved, (9) idealization of aggressor's competence, (10) cognitive restructing of painful events, (11) altruism, and (12) optimism and hope (Jew et al., 1999, pp. 6-7). These 12 skills form the basis for the Resiliency Scale, which in form described in Jew and Green (1998), consists of three subscales: Future Orientation, Active Skill Acquisition, and Independence/Risk-Taking.

Description. The Resiliency Scale consists of 35 items – 19 on the Future Orientation subscale, 10 on the Active Skill Acquisition subscale, and 6 on the Independence/Risk-Taking subscale. Each item is rated by respondents on a 1 to 5 scale from strongly disagree to strongly agree. Jew and Green (1998) reported subscale scores but not a total score.

Uses. The scale was developed using three adolescent populations – 9th grade students, rural 7th through 12th grade students, and residents in an adolescent psychiatric treatment facility.

Psychometric Properties. Internal consistency reliabilities for the three subscales were reported to be .91 for Future Orientation, .79 for Active Skill Acquisition, and .68 for Independence/Risk-Taking. Jew and Green (1995; cited in Jew & Green, 1998) also found that the subscales correlated from .4 to .6 with a measure of coping. They found, too, that the Resiliency Scale effectively differentiates between institutionalized and noninstitutionalized adolescents as well as between self-reported at-risk versus not-at-risk students.

Personal Resilience Questionnaire and Organizational Resilience Questionnaire

Origins. These instruments represent an examination of resilience from a slightly different perspective. Here resilience reflects the capacity to adapt to change – the kind of change that can increasingly be seen in today's world within organizations. ODR, an organization founded and headed by Daryl Conner, has been a leader in examining resilience from this perspective and in developing instruments to measure resilience. Based on his experience with organizations combined with an examination of relevant literature, Conner (1993) outlined five characteristics of resilience. According to Connor, resilient people:

1. Display a sense of security and self-assurance that is based on their view of life as complex but filled with opportunity (Positive);
2. Have a clear vision of what they want to achieve (Focused);
3. Demonstrate a special pliability when responding to uncertainty (Flexible);
4. Develop structured approaches to managing ambiguity (Organized);
5. Engage change rather than defend against it (Proactive). (p. 238)

These characteristics are the basis for the items on both instruments.

Description. Both instruments require respondents to rate items on a scale from 1

(strongly disagree) to 6 (strongly agree). The Personal Resilience Questionnaire (ODR, 1994) contains 75 items focused on the individual doing the rating. The Organizational Resilience Questionnaire (ODR, 1996) contains 66 items focused on the organization of which the respondent is a member. Both instruments yield results on 7 scales directly related to the 5 characteristics of resilient people (or organizations). The scales include Positive External, Positive Internal, Focused, Flexible External, Flexible Internal, Organized, and Proactive. An organizational profile includes performance of the organization on these scales as they relate to three key elements of leadership, context, and culture of the organization and further identify an organization's place on a continuum from danger to caution to opportunity on each of the three key elements and to the scales within each element.

Uses. The general nature of the language in both the instruments and the literature describing the questionnaires suggests that these measures are appropriate for a variety of individuals and in a variety of organizational settings. A study by Glaser, Butler, and Pryor (1998) indicates its use in an educational setting with teachers.

Psychometric Properties. ODR (1996; cited in Glaser et al., 1998) reported internal consistency reliability coefficients ranging from .65 to .83 on the subscales of the Personal Resilience Questionnaire. ODR (1996) indicated the availability of technical information in a handbook from the company.

Family Hardiness Index

Origins. The Family Hardiness Index (McCubbin, Thompson, & McCubbin, 1996) is built around the same theoretical framework as the Personal Views Survey III and its predecessors. It consists of three components of hardiness described earlier – commitment, control, and challenge.

Description. The Family Hardiness Index contains only 20 items. For each item, family members respond on a scale from 0 (false) to 3 (true) as the item applies to their family. The instrument yields scores for commitment, control, challenge, and total.

Uses. The authors noted several studies in which the instrument has been used, many involving parents or family members of disabled children. Other uses have included caregivers of older family members, multiracial families, executives and their spouses to name a few.

Psychometric Properties. Alpha coefficients for the scale in the studies mentioned above have consistently been in the mid to high .80s. Test-retest reliability was reported to be .86.

Summary

The foregoing descriptions were not intended to be an in-depth discussion of each instrument, nor was the list exhaustive. It does, however, provide an introduction to some of the instruments available to measure resilience, and a few of the instruments have experienced fairly wide use. For example, the PVS-III and its predecessors, the Family Hardiness Index, and possibly the Personal and Organizational Resilience Questionnaires have been used in a number of studies. Only two instruments, the Family Hardiness Index and the Organizational Resilience Questionnaire, were designed for the purpose of examining resilience of groups. Most of the instruments discussed here have available information concerning the theoretical base or origins, as well as evidence of reliability and validity that can be used by consumers to make judgements about the adequacy of the instruments for their purposes.

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